

1     **III.           The Hatfield Model consistently underestimates the long**  
2                   **run incremental investment required to provide**  
3                   **Universal Service.**

4           **A.     The Hatfield Model grossly understates the long run incremental**  
5                   **switching investment required to provide Universal Service.**

6     16.   Q.     How does the Hatfield Model treat switching investment?

7           A.     The Hatfield Model significantly understates long run incremental switching  
8                   investment. In a long run incremental cost study, investments must reflect  
9                   long run expected values. This the Hatfield Model fails to do.

10           With switching equipment, or any other technology-dependent equipment,  
11           prices vary over the life of the technology, even when adjusted to eliminate  
12           the effects of inflation. By definition, a long run incremental analysis must  
13           capture the overall effect of all life cycle price variations; something the  
14           Hatfield Model fails to do. For switch prices to a large local exchange carrier  
15           such as Pacific, the price variations have the following pattern:

16           1.           When a new technology, such as today's digital switch, is first  
17                   introduced, the price is relatively high, as the new technology provides  
18                   advantages over existing technology, and the initial vendor(s) is able to  
19                   charge a premium for the advanced capability.

1           2.           As more vendors enter the market, providing competitive equipment,  
2                   prices will drop, but will still reflect the premium value associated  
3                   with the advanced features of the new technology.

4           3.           At some point, the new technology will become the standard, and the  
5                   older technology will have ceased to be produced. During this period,  
6                   switch vendors offer to provide under contract large numbers of  
7                   switches, associated with replacing a large number of existing older  
8                   technology switches, at significant price discounts. These discounted  
9                   prices are often limited to the replacement of the older technology, and  
10                  do not extend to future growth additions to the new technology. (This  
11                  is the current stage of pricing for digital switches).

12          4.           After the replacement of the older switches has been completed, the  
13                   switch replacement contracts will expire, and vendor switch prices will  
14                   rise back to levels more commensurate with the relatively low volumes  
15                   of purchases required to only meet growth demands (as all of the older  
16                   technology switches have been replaced).

17          5.           The last phase is late in the life of the technology, after a newer  
18                   replacing technology appears, when the price of the now older  
19                   technology increases rapidly as vendors exit that market.

20                   The Hatfield Model understated current prices as the expected long run  
21                   incremental investment. The Hatfield Model fails to recognize that today's

1           current digital switch prices, even if correctly stated, are themselves  
2           significantly lower than the long run expected values of those prices for the  
3           reasons explained above (current prices are at stage 3, the lowest in the life of  
4           the technology). By using its understatement of current digital switch prices,  
5           and by failing to recognize the long term pattern of price variations for digital  
6           switching equipment, the Hatfield Model grossly understates the average  
7           switching investment. For Pacific Bell, the Hatfield Model predicts a total  
8           digital switching investment of \$2,838 million. This is obviously wrong since  
9           Pacific's actual digital switching investment was already \$3,370 million in  
10          1994, even though about 35% of Pacific's lines were still being served by  
11          older analog switches. The Hatfield Model thus starts its investment driven  
12          cost estimation process with one of its basic inputs, switching investment, at  
13          probably little over half (about 54%) of Pacific's projected long run  
14          incremental switching investment. By using as its switching investment input  
15          such a small fraction of Pacific's likely long run incremental switching  
16          investment, the Hatfield Model cannot help but grossly understate its  
17          estimates of those expenses it derives by applying embedded cost factors to  
18          that investment.

1           **B.     *The Hatfield Model consistently underestimates the long run***  
2                   ***incremental loop investment required to provide Universal***  
3                   ***Service.***

4    17.    Q.    How does the Hatfield Model identify incremental investment for local loops?

5           A.    The Hatfield Model does not independently calculate loop investments.  
6                   Rather, the Benchmark Cost Model (BCM) is used with the Hatfield Model to  
7                   calculate loop costs. The BCM has a number of problems which cause it to  
8                   improperly calculate incremental loop investments.

9                   In his testimony for Pacific Bell, James Schaaf identifies and discusses many  
10                  of these problems. A summary of those problems is that the BCM does not  
11                  model the way loop plant is actually engineered and placed. In addition, the  
12                  BCM omits a lot of loop investments. The Hatfield Model attempts to rectify  
13                  some of the BCM problems of missing drop, terminal and SAI investments. It  
14                  does not, however, make any adjustments for other missing costs such as  
15                  engineering costs and cable splicing costs. While the BCM was a good first  
16                  attempt at creating a proxy cost model, it lacks the sophistication of the CPM.  
17                  Many of the BCM problems and shortcomings are carried over into the  
18                  Hatfield Model.

19   18.    Q.    Do you have any other concerns about the investments shown in the Hatfield  
20                  Model?

1           A.     Yes. I have significant concerns about the sources and levels of many of the  
2                   inputs to the Hatfield Model. At the April 3 workshops, AT&T / MCI  
3                   presented revised April 1 results for their model. These revised results, which  
4                   I have reflected in my testimony, increased the investments calculated by the  
5                   Hatfield Model by about 30% over previous runs.

6                   In discussing the changes, AT&T / MCI indicated that some of the inputs and  
7                   logic in the model had been changed. When asked for the sources for the new  
8                   inputs, AT&T / MCI said the values in the April 1 runs were only place-  
9                   holders, and that AT&T / MCI were still investigating and searching for actual  
10                  values to use. AT&T / MCI have yet to inform Pacific of the final values they  
11                  intend to use for these place-holders , or to provide the sources for these new  
12                  inputs.

13    19.    Q.     Please summarize the differences in investments as identified by the Hatfield  
14                   Model and your CPM.

15           A.     The following table (Table 2) compares the investments for Pacific Bell as  
16                   determined by the two models:

TABLE 2

## INVESTMENT COMPARISONS

	Unit Investment	Hatfield Model Estimates per line	CPM Per line	Total Hatfield Model Understatement
1	Feeder - Total	\$ 25.79	\$ 87.69	\$ 569 Million
1a	Feeder	N/A	\$ 65.13	-
1b	SAI	N/A	\$ 22.56	-
2	Distribution - Total	\$ 131.78	\$ 235.54	\$ 522 Million
2a	Distribution	N/A	\$ 184.17	-
2b	Terminal	N/A	\$ 50.99	-
3	Support Structure	\$ 0	\$ 90.91	\$ 875 Million
4	Drop	\$ 40.00	\$ 50.55	\$ 107 Million
5	Loop Electronics	\$ 85.89	\$ 139.69	\$ 529 Million
6	Total Switch + IOF	\$ 194.75	\$ 242.11	\$ 482 Million
6a	TS Switching	In Switch	\$ 122.22	-
6b	NTS Switching	In Switch	\$ 119.89	-
6c	Switching	\$ 191.49	-	-
6d	IOF	\$ 3.26	In TS Switch	-
	Total Investment	\$ 478.22	\$ 846.11	\$ 3,604 Million

The most noticeable difference is that the Hatfield understates investments for every type of plant. The largest understatements are for the various categories of loop investment. The single largest difference is that the Hatfield Model assigns no investment for support structure to Universal Service. The Hatfield Model identifies a support structure investment, and an annual capital cost of \$173 Million, but then excludes that cost from its subsidy calculation.

20. Q. Are there any explanations of why the Hatfield Model understates loop investments for residential service?

1           A.     Yes. AT&T / MCI have described that the Hatfield Model calculates an  
2                   average loop investment for each loop in a particular studied area. It then  
3                   calculates the subsidy requirement for the study area by first subtracting the  
4                   investments it associates with business loops in the study area. In this  
5                   calculation it assumes that both business and residence loops in the area have  
6                   the same investment (the average loop investment of the area).

7                   Pacific's OANAD TSLRIC studies indicate the distribution plant portion of  
8                   residence loops tends to be significantly longer than the distribution plant  
9                   portion of business loops (more than 70% longer). Additionally, the  
10                  associated distribution plant costs of the buried terminals and drops of  
11                  residential service loops are costs not offset by lower cost business service  
12                  loop equivalents. The net effect is that the distribution plant and related costs  
13                  for residential service loops are more than 70% more costly than for business  
14                  service loops. This difference accounts for three fourths of the \$40 annual  
15                  capital cost difference between business and residence service loops. As these  
16                  cost differences are relatively independent of study area differences, the effect  
17                  of the Hatfield Model's averaging of the loop investments is to significantly  
18                  overstate the investment for a business loop and to significantly understate the  
19                  investment for a residence loop in the same study area.

20                Pacific's CPM does not yet have all of the business service loop data to enable  
21                it to determine the subsidy for business loops in high cost areas. We expect to

1           have that data and the resulting subsidy calculation by early May, if not  
2           sooner. (ALJ Ruling, February 21, 1996, Question 5).

3   **IV.           Pacific Bell's Cost Proxy Model (CPM) accurately**  
4           **estimates costs of providing Universal Service.**

5   21.   Q.   How is Pacific Bell's Cost Proxy Model superior to the Hatfield Model?

6           A.   Pacific Bell's Cost Proxy Model (CPM) is far superior to the Hatfield Model  
7           in accurately estimating costs of providing Universal Service for the following  
8           reasons:

- 9           •           The expenses input to the Cost Proxy Model are estimated expenses  
10           per line of providing universal service that can reflect the best  
11           available data for each company, not estimates derived by applying  
12           factors from embedded cost relationships, expenses for New  
13           Hampshire in 1992, or factors from the airline industry.
- 14          •           The investments input to the Cost Proxy Model reflect forward looking  
15           engineering guidelines for placing equipment, and appropriate long run  
16           equipment prices charged by equipment vendors, not estimates derived  
17           from other states or short term special price discount deals.

18           The inputs into the Cost Proxy Model can reflect OANAD cost studies  
19           identified following the Total Service Long Run Incremental Cost study  
20           principles adopted by the CPUC (D. 95-12-016, Appendix C), not embedded

1 costs and relationships from other companies in other states, or other cost  
2 studies determined using unknown principles.

3 22. Q. What relationship is there, if any, between the cost data used for the proxy  
4 cost model, and the cost data prepared for the OANAD? (ALJ Ruling,  
5 February 21, 1996, Question 8).

6 A. The cost data used for Pacific's proprietary Cost Proxy Model (CPM) is  
7 virtually identical to that prepared for Pacific's OANAD TSLRIC showing.  
8 The cash operating expenses identified in the OANAD studies are inputs to  
9 the CPM. The forward looking unit investments used as inputs to the CPM  
10 are the same as those used as inputs to Pacific's OANAD studies, as are the  
11 characteristics of the use of that investment (e.g., lengths of feeder cables,  
12 cable locations, type of plant). The only difference in the inputs to the models  
13 is that the plant utilizations used to size feeder plant for the OANAD study is  
14 the theoretical maximum, consistent with the capacity cost definitions used for  
15 OANAD, while the utilizations used to size feeder plant for the CPM are the  
16 actual expected utilizations appropriate for the Universal Service cost  
17 calculation.

18 The non-proprietary version of the CPM relies on data from commercial  
19 databases and other public sources. It does not use any proprietary data from  
20 Pacific's TSLRIC cost studies.

1     **V.           What are the cost differences associated with providing**  
2                   **customers the choice of flat or measured rate service,**  
3                   **and the technical feasibility of providing that choice?**

4     23.     Q.     What are the cost differences associated with providing customers the choice  
5                   of flat or measured rate service, and the technical feasibility of providing that  
6                   choice? (ALJ Ruling, February 21, 1996, Question 4).

7             A.     The cost differences between providing residential flat rate service and  
8                   residential measured rate service are the different costs of the unbilled usage  
9                   provided with each service. The volume sensitive TSLRIC of the average  
10                  unbilled usage for each of the residential services was identified in Pacific's  
11                  OANAD showing. Because of the wide variations in the amount of unbilled  
12                  local usage between customers with flat rate residential service, there is a  
13                  correspondingly large variation in the cost of providing that usage. Each of  
14                  Pacific Bell's central office switches is capable of providing either flat or  
15                  measured service.

16     24.     Q.     Does this conclude your testimony?

17             A.     Yes.

**PACIFIC BELL**

**TESTIMONY OF R. L. SCHOLL**

**UNIVERSAL SERVICE PROXY COST MODELS**

**April 17, 1996**

BEFORE THE CALIFORNIA PUBLIC UTILITIES COMMISSION  
R. 95-01-020  
I. 95-01-021

1 1. Q. Please state your name and business address.

2 A. My name is Richard L. Scholl. My business address is 2600 Camino Ramon,  
3 San Ramon, California.

4 2. Q. By whom and in what capacity are you employed?

5 A. I am employed by Pacific Bell as a Director in the Financial Management  
6 Department. I am responsible for the identification of the cost to Pacific of  
7 providing its services. I have had this general responsibility since April, 1981.  
8 I have been Pacific's primary cost of service expert witness since 1984.

9 3. Q. Please state your educational background and work experience.

10 A. In terms of formal education, I have been awarded a Master of Business  
11 Administration degree by the University of Santa Clara, and Master of Science  
12 and Bachelor of Science in Electrical Engineering degrees by Purdue  
13 University. In addition, I have attended various specialized courses and  
14 seminars since joining Pacific. These course and seminar topics include  
15 economics, finance, marketing, and cost identification. In addition to my  
16 current assignment, my work experience with Pacific includes various  
17 assignments in operations, engineering, marketing and internal consulting. I  
18 also had an inventory management assignment at AT&T prior to divestiture.

19 4. Q. Have you testified before this Commission in the past?

20 A. Yes. I have testified before this Commission as Pacific Bell's cost of service  
21 witness in Pacific's Local Competition proceeding (I. 95-04-044, Phases I and

1 II), as Pacific's cost of service and imputation (price floor) witness in the IRD  
2 proceeding (I. 87-11-033, Phase III). as Pacific's cost of service witness in  
3 Pacific's 1986 general rate case (A. 85-01-034), in Phase III of Pacific's access  
4 charge application (A. 83-06-065), in Pacific vs. Wang Communications Inc.  
5 (Case No. 86-10-012 and related matters), in the rebuttal phase of Pacific's  
6 1983 general rate case (A. 83-01-022), and in the Customer Owned Pay  
7 Telephone hearings ([I & S] Case 85-02-051). I participated in the  
8 incremental cost methodology workshops held last summer in the OANAD  
9 proceeding which eventually resulted in the "Consensus Costing Principles"  
10 for TSLRIC studies adopted by the Commission in D. 95-12-016.

11 **I. Summary**

12 5. Q. What is the purpose of your testimony?

13 A. The purpose of this testimony is twofold:

- 14 • To identify that the cost estimates produced by the universal service  
15 cost estimation model presented by AT&T and MCI known as "The  
16 Hatfield Proxy Model" (the Hatfield Model) consistently understate  
17 the costs of providing universal service in California, and the model is  
18 therefore not appropriate, and

- 1           •           To demonstrate that the costs identified using the Cost Proxy Model  
2                           developed jointly by Pacific Bell and Dr. Emmerson, reasonably  
3                           estimate costs of providing universal service.

4   **II.           *The Hatfield Proxy Model consistently underestimates***  
5                   ***Pacific Bell's cash operating expenses required to***  
6                   ***provide Universal Service.***

7           **A.    *The Hatfield Model applies embedded cost factors and incorrectly***  
8                   ***represents the result as an incremental cost study.***

9    6.   Q.   How does the Hatfield Model estimate expenses incurred providing universal  
10                   service?

11           A.   For many expenses, the Hatfield Model's basic structure is to estimate cash  
12                   operating expenses by applying factors to incremental investments. Those  
13                   factors are derived from relationships between embedded investments and  
14                   expenses. This process is wrong for three reasons:

- 15           •           First, using this factor approach is inherently flawed in an incremental  
16                           cost model where the factors are applied against equipment prices.  
17                           This approach incorrectly assumes that Pacific's operating expenses  
18                           such as maintenance expenses will drop if an equipment vendor drops  
19                           its equipment prices, or will rise if an equipment vendor raises its  
20                           equipment prices. This is nonsense. It requires no fewer technicians

1                   to repair a piece of equipment just because a vendor lowered the price  
2                   of the equipment. This is precisely the reason that our Cost Proxy  
3                   Model does not use this flawed approach. Instead, in our model, the  
4                   user directly inputs all operating expenses. The source of these  
5                   operating expenses is the TSLRIC study presented in the OANAD  
6                   proceeding. While the Hatfield Model's factor approach may be  
7                   useful in an *embedded* cost study where embedded investments (the  
8                   aggregate of all of the investments on a company's books) are  
9                   relatively stable over time, it has no place in an *incremental* cost study  
10                  where equipment prices can be quite volatile.

11               •           The second thing wrong with the approach used in the Hatfield Model  
12                   is that the factors are derived from relationships between operating  
13                   expenses and *embedded* investments. These relationships simply have  
14                   no bearing on the relationship between operating expenses and  
15                   *incremental* investments. Depending on the relationship between  
16                   embedded investments and current equipment prices for the newest  
17                   technology equipment, the Hatfield Model can over or understate  
18                   operating expenses. Since in the Hatfield Model most incremental  
19                   investments are assumed to be significantly lower than booked  
20                   investments, the model systematically understates operating expenses.

21               •           The third thing wrong with the approach used in the Hatfield Model is  
22                   that it will tend to overstate costs in areas that require higher

1 investment costs but not necessarily higher operating expenses. For  
2 example, loop investments will vary by loop length and density. For  
3 low density rural areas, with higher average loop investments, the  
4 Hatfield Model will calculate correspondingly high operating  
5 expenses. In my experience, I have not found that situation to be true.  
6 Pacific's average loop maintenance costs are not higher in rural areas.

7 **B. The Hatfield Model has incorrectly determined the cost factors it**  
8 **applies to investment for estimating costs of providing Universal**  
9 **Service.**

10 7. Q. What is wrong with the way the Hatfield Model determines the cost factors  
11 that it applies to investment for estimating costs of providing Universal  
12 Service?

13 A. The Hatfield Model not only utilizes its inferior cost factor process, it applies  
14 the factors incorrectly in a manner which underestimates costs. For example,  
15 the factor used in the Hatfield Model to estimate digital switch maintenance  
16 expenses, AT&T / MCI use a factor from a New England Telephone cost  
17 study for New Hampshire.<sup>1</sup> The factor is the ratio of digital switch

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<sup>1</sup> Elsewhere, the Hatfield Model uses Pacific Bell data for development of other maintenance cost factors. This is an example of the builders of the Hatfield Model selectively choosing their processes to consistently underestimate costs.

1 maintenance to "adjusted" embedded investment. The Hatfield Model then  
2 uses that factor to calculate switch maintenance everywhere, including  
3 California.

4 AT&T / MCI further described that the Hatfield Model determined that  
5 switching investment varies by switch size, with the largest investment per  
6 line occurring for switches with the smallest line size. As New Hampshire is  
7 characterized by small towns with small switches, these switches should have  
8 higher switching investments per line than would be the case for a state like  
9 California, with most lines in large switches in metropolitan areas.

10 As there is no evidence that digital switch maintenance costs per line vary  
11 significantly by the line size of the switch, by using the switch maintenance  
12 factor for New Hampshire's high switch unit investment, the Hatfield Model  
13 creates a factor only for "small town" states like New Hampshire, but that  
14 factor is clearly much too low for California with its cities. Applying the low  
15 switch maintenance factor from New Hampshire to Pacific's lower per-line  
16 switch investment will, by necessity, underestimate the switch maintenance  
17 costs of Pacific Bell.

18 FCC ARMIS data bear out that the Hatfield Model's switch maintenance  
19 expense factor and reliance on New Hampshire data results in a completely  
20 unreliable estimate of switching maintenance expense. The Hatfield Model  
21 uses a digital switch maintenance factor of 0.0269 from a 1992 study for New

1 Hampshire. The 1993 ARMIS data (Figure A) shows that the average RBOC  
2 had a Digital Switch Maintenance factor of 0.058, while Pacific's was 0.054.

3 The New Hampshire factor clearly has no relevance for Pacific Bell.

4 AT&T / MCI claim to have verified the switch maintenance factor by  
5 comparing it with data reported by U S West, another company with a  
6 significant portion of its customer base in small communities. AT&T / MCI  
7 claimed in the workshops that the low switch maintenance factor from New  
8 Hampshire was due to efficient operations (as opposed to higher per-line  
9 investments), yet the factor from the 1993 ARMIS report for New York  
10 Telephone, the sister company of New England Telephone in NYNEX, had a  
11 factor of 0.053. If the factors represented relative efficiency, then both New  
12 Hampshire's and New York's factors should be equal as NYNEX could be  
13 expected to be equally efficient in each of its state operations.

14 The approach used by our CPM in determining switching maintenance  
15 expenses directly from available company data is far superior to the  
16 manipulatable factor approach employed by the Hatfield Model. At the very  
17 least, if a factor approach is used, any factor used must be computed with  
18 California specific data, not data from a totally dissimilar state.

19 Finally, this problem in the Hatfield Model in the way it estimates switching  
20 maintenance is exacerbated by the Hatfield Model's method of estimating  
21 incremental switching investment. As I describe below, the Hatfield Model

grossly understates Pacific's switching investment. By applying the inappropriately low switching maintenance expense factor to a significantly understated investment, the Hatfield Model compounds its error and understates switching maintenance costs even more.

## FIGURE A

1993 ARMIS Data -- Analysis of Digital Switch Maintenance  
to Digital Switch Investment

Company	Expense	Investment	Factor
All LECs	2,206,401	39,119,365	0.056
All RBOCs	1,615,720	27,664,686	0.058
All Other LECS	590,681	11,454,679	0.052
Illinois Bell	95,815	1,276,012	0.075
Michigan Bell	72,059	1,008,400	0.071
Bell of PA	82,146	1,193,931	0.069
New Jersey Bell	65,483	1,092,997	0.060
Bell South	346,624	5,310,713	0.065
New England Tel	73,949	1,880,782	0.039
New York Tel	182,597	3,445,909	0.053
Pacific Bell	159,274	2,933,710	0.054
Southwestern Bell	149,817	2,411,316	0.062
US West	121,877	3,270,438	0.037
GTE Calif	96,311	1,627,242	0.059

Q. Are there other examples of the Hatfield Model incorrectly determining the cost factors it applies to investment?

A. Yes. The Hatfield Model incorrectly determines the cost for buried cable maintenance. Instead of applying a buried cable maintenance factor to the

1 buried cable investments developed in the model, the model applies a factor  
2 for underground cable maintenance. As the factor for underground cable  
3 maintenance (0.031) is significantly lower than the factor for buried cable  
4 maintenance (0.068), the Hatfield Model deviates from its own process in  
5 order to understate buried cable maintenance by more than half.

6 **C. The Hatfield Model consistently underestimates the costs of**  
7 **providing Universal Service when compared to costs from our**  
8 **just completed TSLRIC studies.**

9 9. Q. Have you compared the outputs of the Hatfield Model with your directly  
10 determined OANAD cost study results?

11 A. Yes. The Hatfield Model consistently underestimates cash operating expenses  
12 directly associated with providing Universal Service. For example, the  
13 Hatfield Model estimates the cost of Directory Assistance (DA) calling at  
14 \$.01 per call. This is nonsense. One reason that the Hatfield Model is so far  
15 off is because it chooses to omit all costs associated with the DA operators.  
16 Pacific's OANAD cost study identified that the operator wages alone for one  
17 DA message is over \$0.18. The total volume sensitive TSLRIC for a single  
18 DA message is \$0.34. When applied to all of the DA calling made under the  
19 five call allowance of basic residential service, the Hatfield Model, by making  
20 this simple error, has underestimated our DA costs associated with Universal  
21 Service more than \$100 Million per year.

1           In addition, for some reason not explained by AT&T / MCI, while the Hatfield  
2           Model identifies "Operator Services, non-charged, incl DA" expenses of  
3           \$5,735,113, using the process I described, those expenses are excluded from  
4           the Hatfield Model's calculation of the total annual subsidy.

5   10.   Q.   Do the expenses estimated by the Hatfield Model include all of the expenses  
6           which would be incurred by a provider if it undertook to be a carrier of last  
7           resort under the Commission's proposed Universal Service rules?

8           A.   No. The Hatfield Model underestimates many expenses and ignores others.  
9           In Table 1, I have identified expense comparisons between what the Hatfield  
10          Model estimates for Pacific Bell and the expenses in our Cost Proxy Model.  
11          The values in our model are the TSLRIC expenses identified in Pacific's  
12          OANAD cost study. Further, while I have not been able to verify that I have  
13          identified all instances where the Hatfield Model has understated or ignored  
14          expenses, I have described several specific instances where the Hatfield  
15          understates or omits entire areas of expense.

1

## EXPENSE COMPARISONS

	Expense	Hatfield Model Estimates (per line per month)	CPM (per line per month)	Hatfield Understatement
1	Directory Assistance	(Excluded from subsidy calculation)	\$ 0.93 per line per month (\$0.33 per call)	\$106 Million
2	Switch Maintenance	\$0.43	\$0.50	\$8 Million
3	Loop Maintenance	\$0.90	\$2.48	\$179 Million
4	Directory White Pages	\$0.15	\$0.31	\$18 Million
5	Customer Services	\$1.25	\$3.39	\$243 Million
6	Network Operations	\$4.26	\$1.91	(\$267 Million)
7	"Operator Minus"	"Included in DA"	\$0.11	\$13 Million
8	Non-recurring costs	\$0.00	\$1.51	\$174 Million
9	G & A	\$0.91	\$1.90	\$114 Million
10	Uncollectables	\$0.53	Not included	(\$22 Million)
10	Capital Costs	\$6.85	\$13.26	\$729 Million
	Total	\$14.94	\$26.33	\$1,295 Million

2

TABLE 1

3 11. Q. On Table 1, why does your model identify costs for service establishment and  
4 removal while the Hatfield Model shows no such costs?

5 A. This is another example of the Hatfield Model omitting costs incurred for  
6 Universal Service. The costs to establish and disconnect basic service are

1 unarguably costs of providing Universal Service. As such, they should be  
2 captured by any proxy cost model. In the IRD decision (D. 94-09-065) the  
3 Commission clearly established that below-cost installation charges are an  
4 important element of Universal Service. Any Universal Service subsidy  
5 calculation must include both the revenues and costs associated with these  
6 nonrecurring activities.

7 12. Q. Why is there such a large difference in the expenses identified for Customer  
8 Services (i.e., billing and remittance, collections and billing inquiries) in the  
9 two models?

10 A. In its description of the billing and collections and inquiries, AT&T / MCI  
11 identified that the data from the New Hampshire study was \$1.06 for billing  
12 the customer and processing the customer's returned payments, plus \$0.16 for  
13 billing inquiries. AT&T / MCI presented the total as \$1.25. No attempt was  
14 made in the Hatfield Model to include costs of collections. Pacific's identified  
15 costs include costs of billing, collections and billing inquiries.

16 13. Q. Has the Hatfield Model identified costs not included in Pacific's CPM?

17 A. Yes. Uncollectables are normally treated as a revenue offset. However, the  
18 Hatfield Model includes uncollectables using a cost factor that will  
19 inappropriately calculate large uncollectables in high cost areas. The correct  
20 approach is to determine uncollectables as a percentage of basic service  
21 revenues in the subsidy calculation.

**D.    *The Hatfield Model inappropriately mixes cost inputs from  
inconsistent and inappropriate sources***

14.    Q.    Does AT&T / MCI's Hatfield Model use a consistent source of data for its inputs?

A.    No. The Hatfield Model inputs are from varied sources that are inconsistent and inappropriate. For example, as previously discussed, the model uses embedded cost factors to estimate incremental costs. It uses Pacific Bell data to develop all its embedded cost factors except for digital switch maintenance, where it uses a factor from a New Hampshire cost study. Furthermore, the New Hampshire derived factor is an embedded factor that is adjusted by an unexplained book-to-current cost ratio. This book-to-current cost factor inappropriately reduces the New Hampshire embedded cost factor.

In the area of customer service costs, the Hatfield Model also uses data from the New Hampshire study. However, the New Hampshire study is not a TSLRIC study. The costs in the New Hampshire study appear to be the marginal costs incurred with a 10% change in volume. The Commission rejected this type of incremental cost approach when it adopted the Consensus Costing Principles (Principle No. 3 requires "The increment being studied shall be the entire quantity of the service provided, not some small increase in demand").

1           The overhead factor in the Hatfield Model is another example of using  
2           inconsistent and inappropriate inputs. AT&T / MCI use a 6% overhead factor.  
3           They used a factor derived from data from the airline and automobile  
4           industries. They did not even use data from their own firms. If AT&T /MCI  
5           wanted to use an overhead factor representative of “competitive” industries,  
6           they could have used data from their own firms to determine the factor. At  
7           least then, they would have stayed within the same general industry. Data  
8           from 1993 FCC ARMIS reports show that the embedded overhead factor for  
9           all LECs was 0.134. The factor for the RBOCs was 0.116. The factor for  
10          AT&T was 0.177, nearly three times the factor adopted by AT&T / MCI.  
11          There is no explanation by AT&T / MCI of why they chose to reduce the  
12          factor from the LEC industry average to represent the airline and automobile  
13          industries rather than to increase it to reflect the “competitive” experience of  
14          AT&T.

15           **E.     *The Hatfield Model understates depreciation expenses***

16    15.    Q.     Does the Hatfield Model correctly determine depreciation expenses?

17           A.     No. The Hatfield Model understates depreciation expenses by assuming an  
18           eighteen year economic life for all investments. It makes no distinction  
19           between the economic life of a building, a central office switch, a computer on  
20           an employee’s desk, or the vehicles employees use. The Hatfield Model  
21           assumes that all assets have the same eighteen year economic life.